

South Coast  
Ozone Air Quality Forum and Technical Roundtable  
October 31, 2006  
Diamond Bar

# ARB Perspective on Ozone and Goods Movement

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**Air Resources Board**

California Environmental Protection Agency

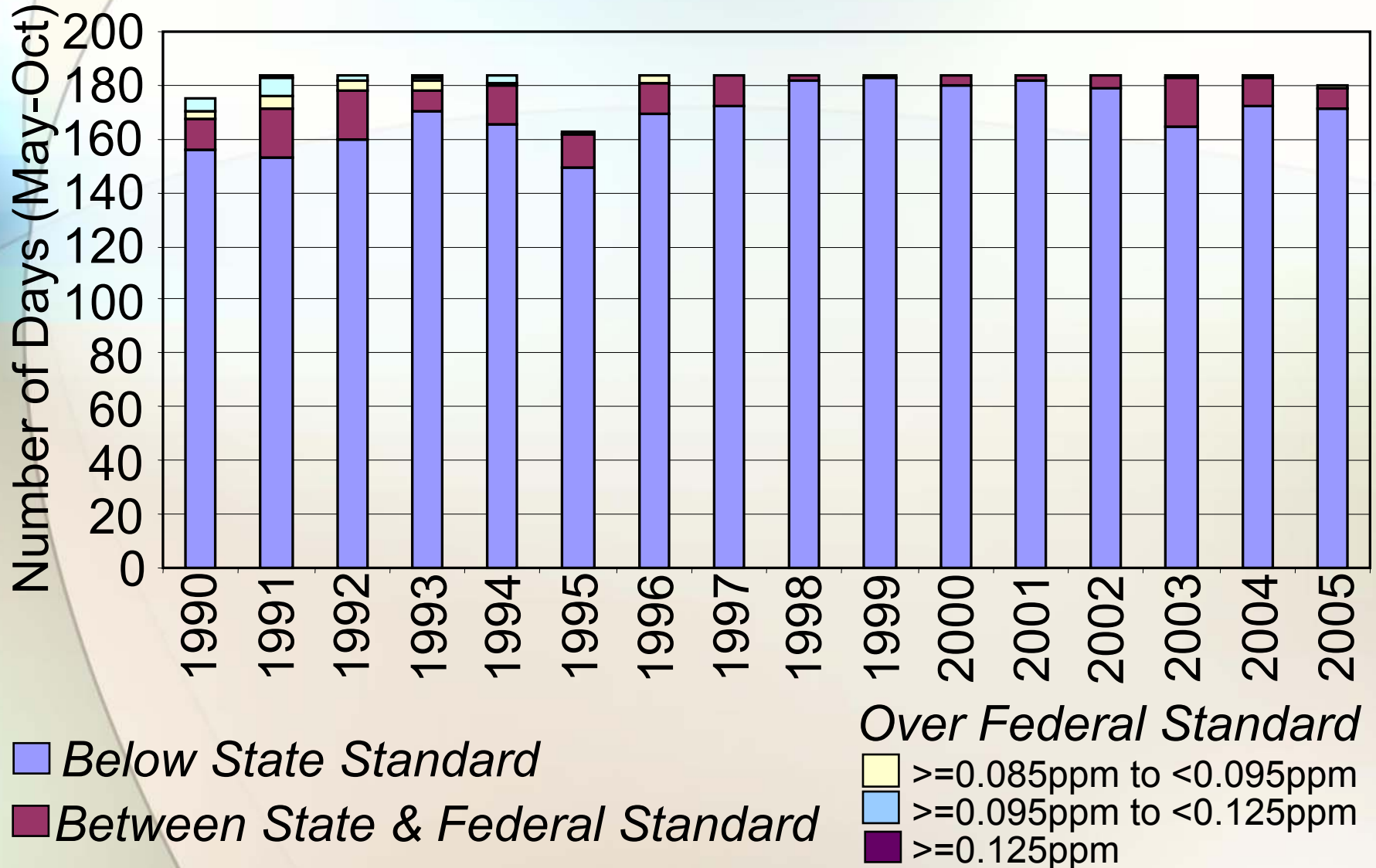
# **The Bottom Line**

- **Long-term decrease in ozone due to VOC/NOx controls**
- **Decrease in PM<sub>2.5</sub> levels driven by NOx and diesel PM reductions**
- **Dual pollutant strategy needed on ozone**
- **Goods movement is high growth**
- **New controls target health risk**
- **VOC controls need to keep pace**

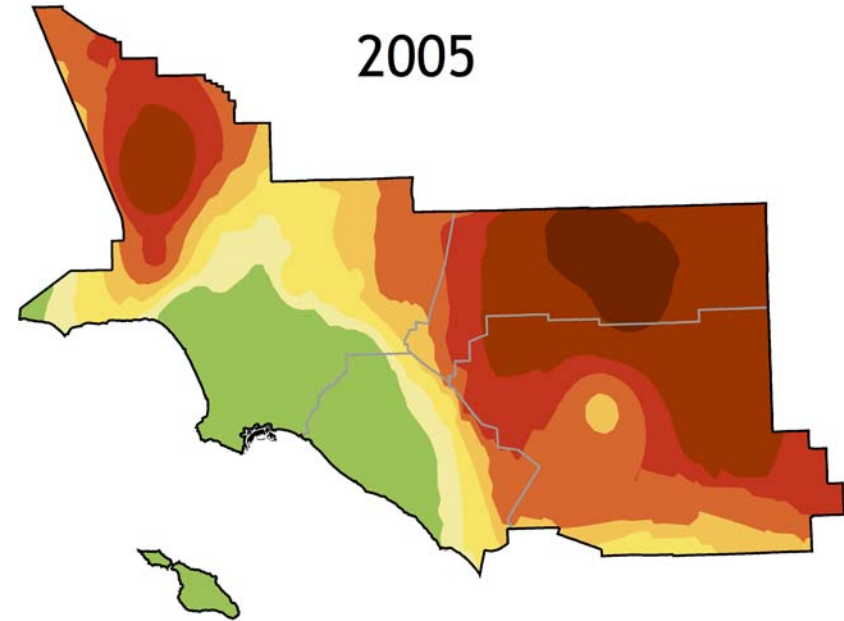
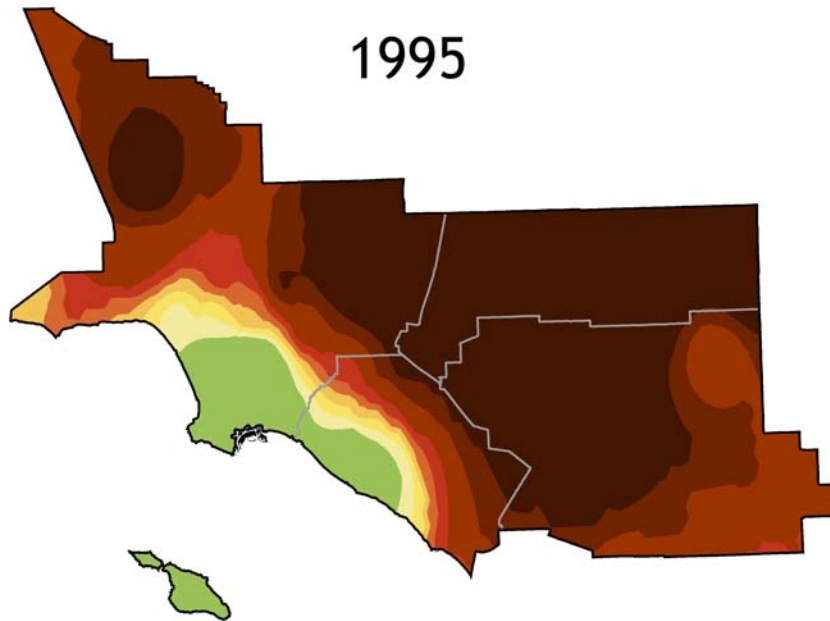
# Looking Back



# Ozone in Downtown LA Below State 8-Hr Standard ~170 Days of Season



# Half of South Coast Residents Live in Areas that Now Meet Federal 8-Hr Ozone Standard – But Half Do Not



Design Value (ppm)

0.000 - 0.039

0.040 - 0.084

0.085 - 0.089

0.090 - 0.094

0.095 - 0.099

0.100 - 0.104

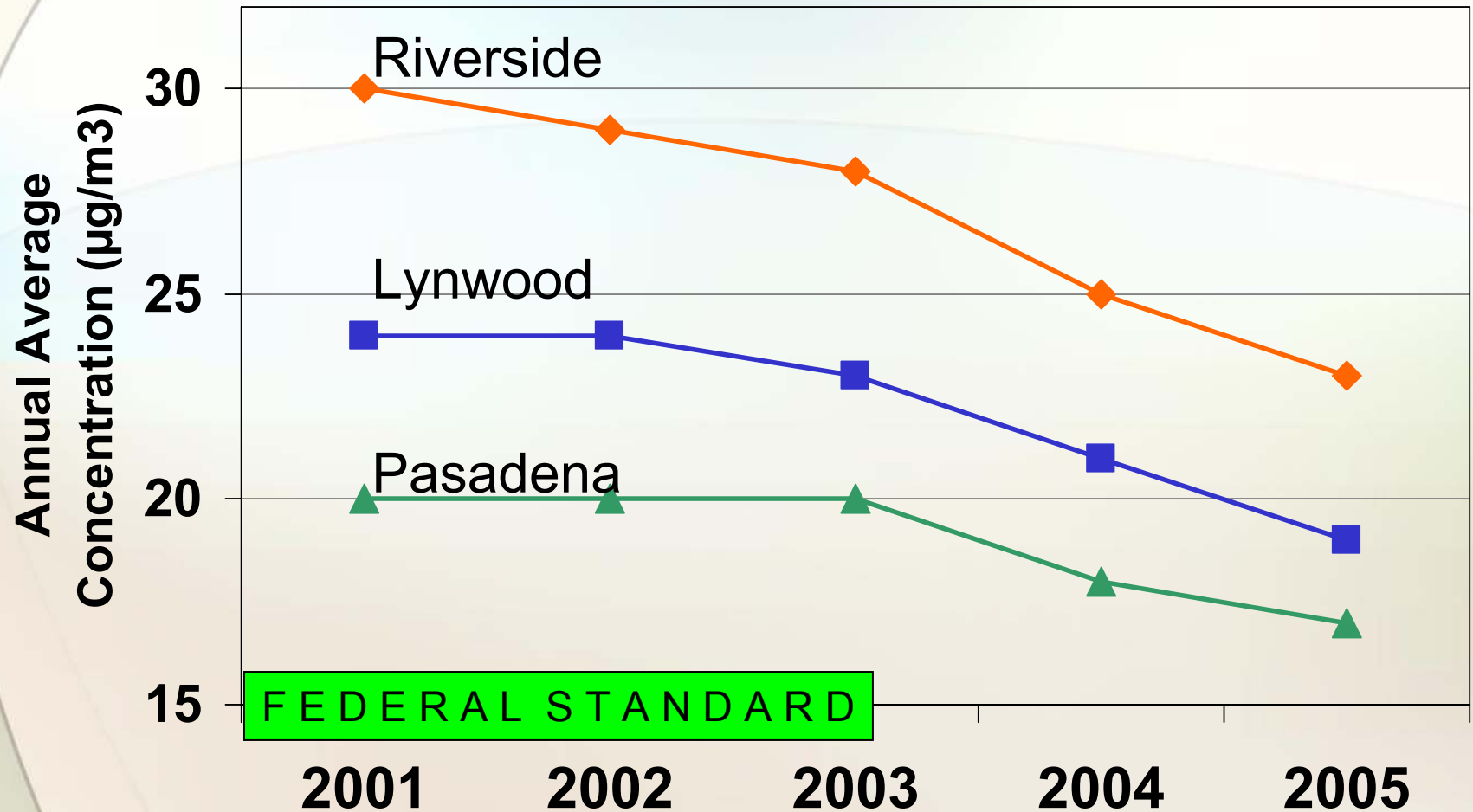
0.105 - 0.109

0.110 - 0.119

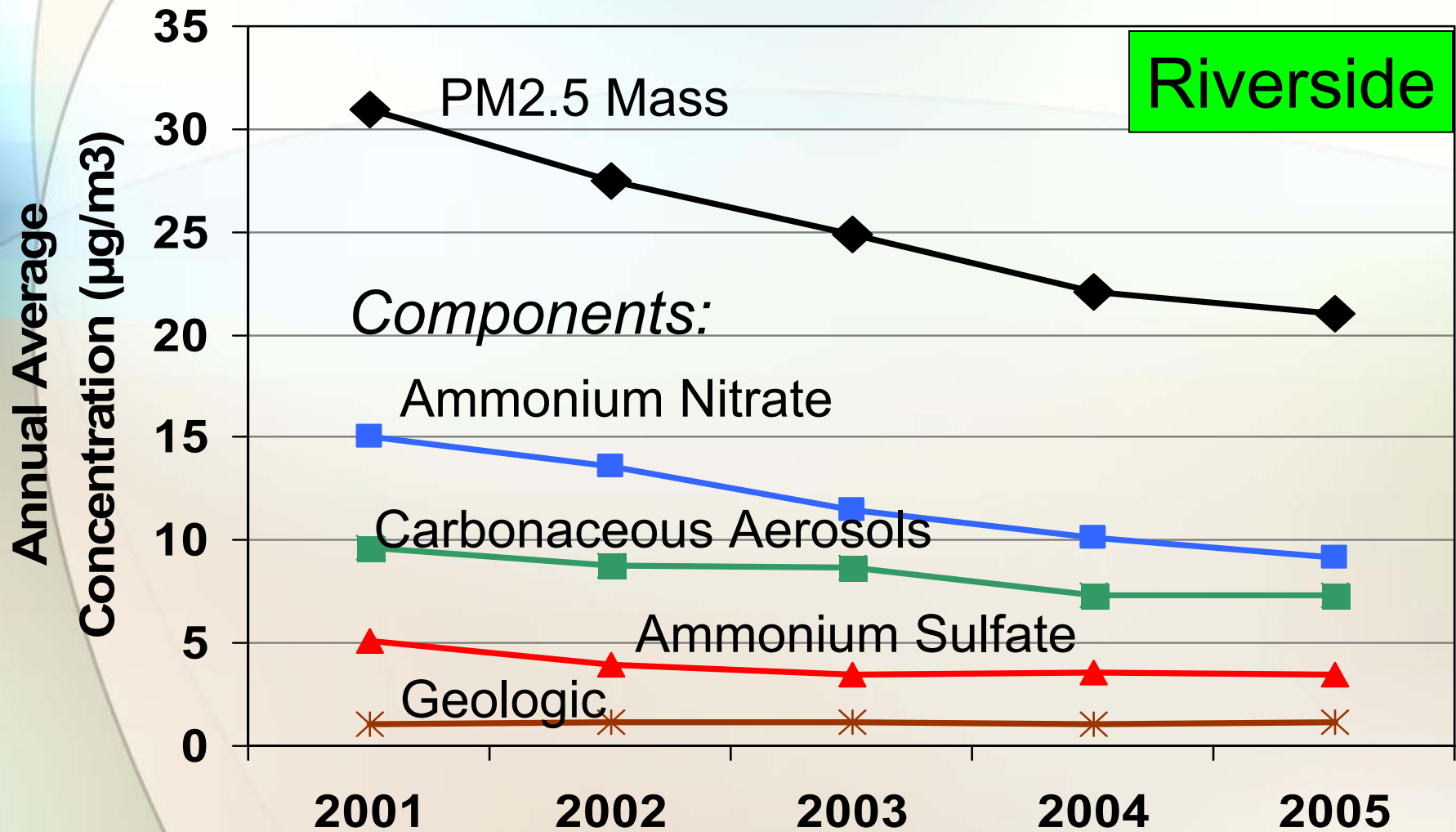
0.120 - 0.129

0.130 +

# PM2.5 Levels Down 15-20%



# NOx Controls Driving PM2.5 Decrease



# Looking Ahead

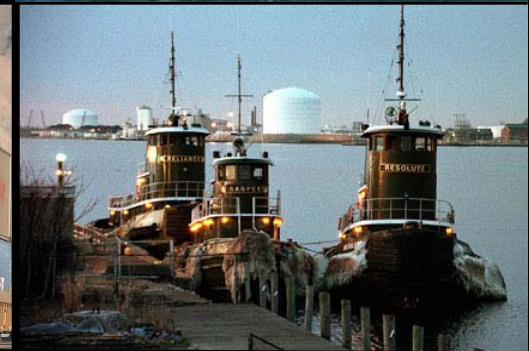




# Goods Movement Growth

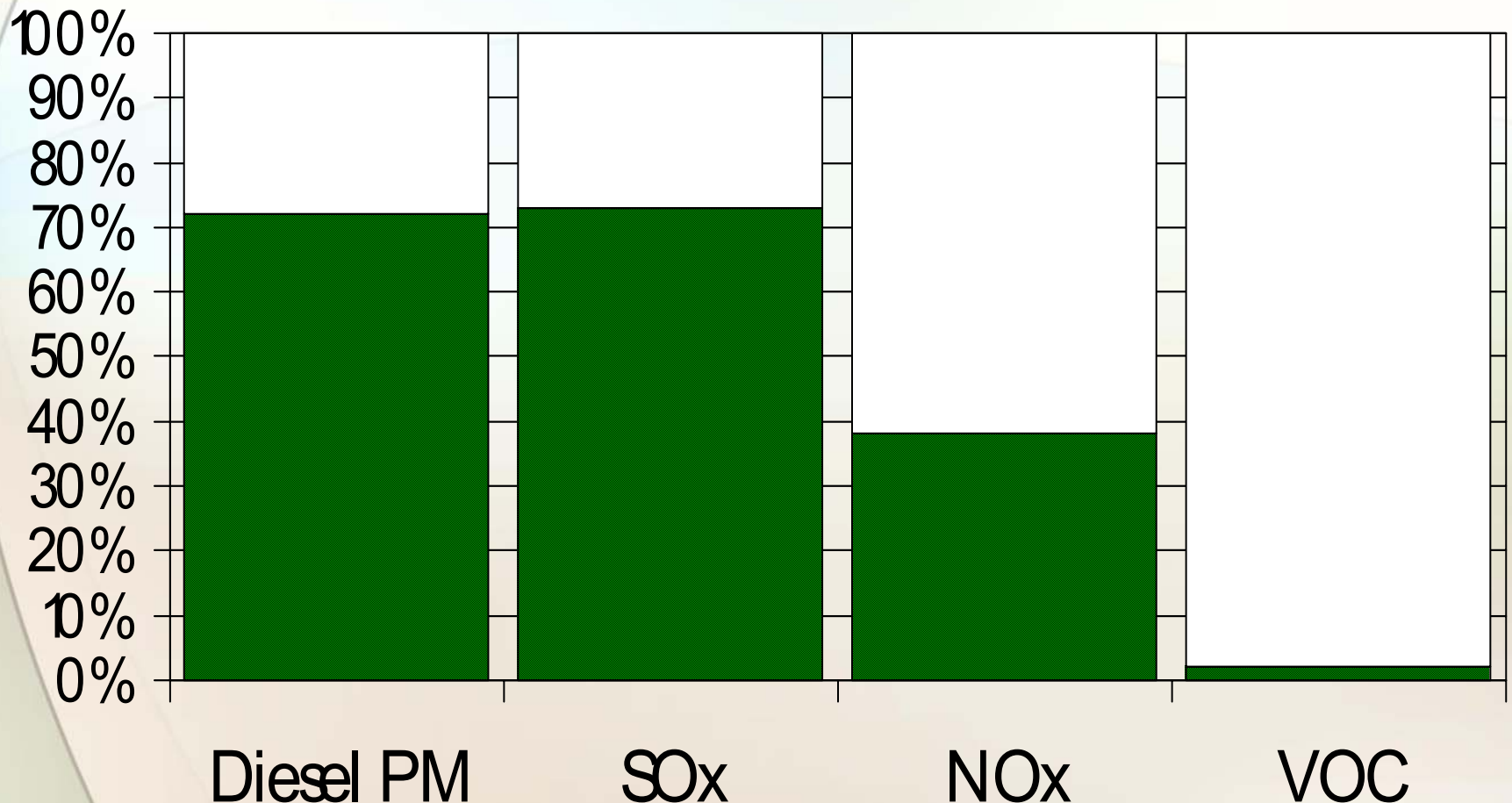
## 2001-2020

- Cargo through ports triples by 2020
- California population grows 25%
- Truck travel increases 50%
- Rail cargo grows 110%



# Goods Movement\* Contribution to South Coast Baseline Emissions in 2020

(to 100 nautical miles offshore)



*\*Includes diesel trucks over 33,000 lbs GVWR; local delivery trucks not included*

# **2005 Health Impacts from Goods Movement in South Coast**

- **1,200 premature deaths/year\* associated with goods movement**
- **Key contributing pollutants:**
  - **Diesel PM**
  - **Ammonium nitrate PM**
  - **Ozone**

*\*Uncertainty range is 360 to 2,100 deaths/year*

# **ARB Goals for Goods Movement**

## **Reverse growth in emissions**

- **By 2010, reduce emissions as much as possible, at least to 2001 levels**

## **Reduce diesel PM risk**

- **Rapid reduction in community risk**
- **By 2020, reduce statewide risk 85%**

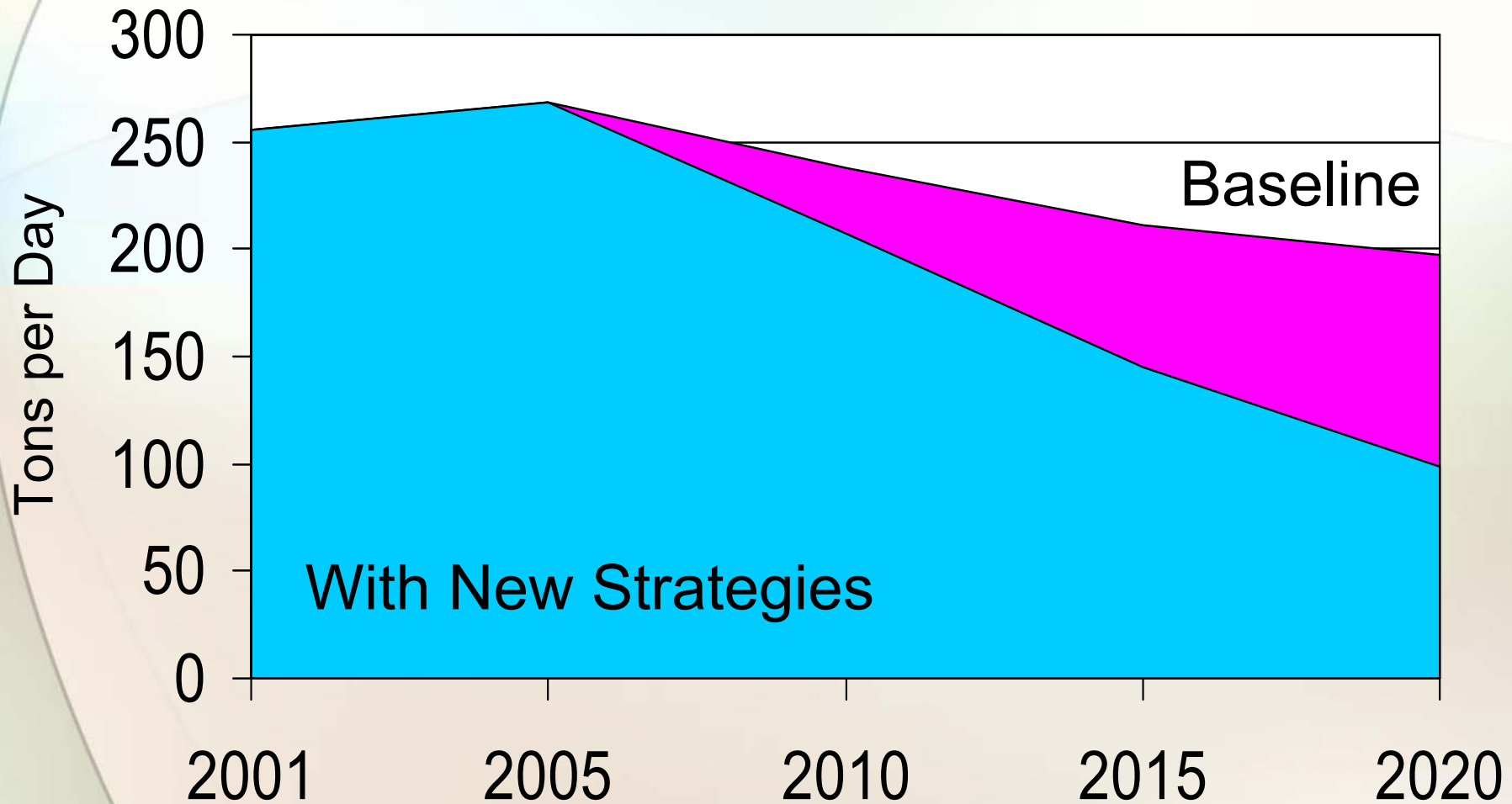
## **Attain federal PM2.5 & ozone standards**

# **Goods Movement Strategies**

- **Cleaner engines and fuels**
- **Fleet modernization (retrofit or replace)**
- **Speed reduction and idling limits**
- **Shore-based power for ships and tugs**

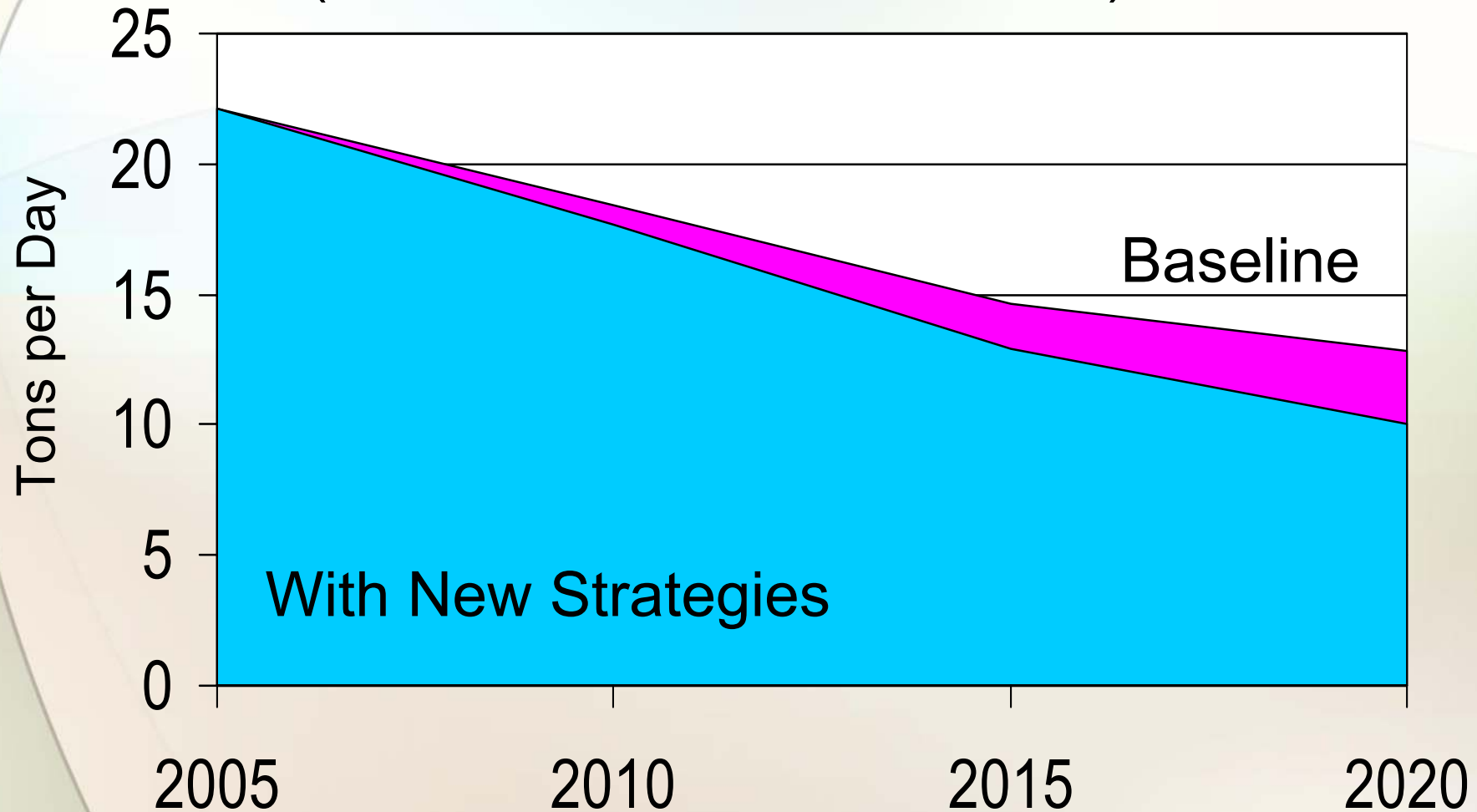
# Reducing Goods Movement Emissions in South Coast – NO<sub>x</sub>

(to 24 nautical miles offshore)



# Reducing Goods Movement Emissions in South Coast – VOC

(to 24 nautical miles offshore)





# **Improving Our Knowledge**

- **More upper atmosphere measurements (ozone and precursors)**
- **Ability to assess control effectiveness over entire ozone season**



# Conclusion

- **Continue seeking maximum feasible, cost-effective reductions of VOC+NO<sub>x</sub>**
- **Continue prioritizing controls for community health benefits**

